

### **R E M A R K S**

Reconsideration of this application, as amended, is respectfully requested.

### **THE SPECIFICATION**

The specification has been amended to correct the informalities pointed out by the Examiner on page 4 of the Office Action. In particular, the specification has been amended to refer to the last lens in Table 2 on page 30 as "L18" (not L17.) Submitted herewith are a replacement page 30 of the specification on which (only) the Table 2 is set forth and a marked-up copy of page 30 showing that no new matter has been added.

In addition, the specification has been amended at page 35 as required by the Examiner.

No new matter has been added, and it is respectfully requested that the amendments to the specification be approved and entered, and that the objection to the specification be withdrawn.

### **THE DRAWINGS**

Figs. 26-28 have been amended to be labeled as "Prior Art", as required by the Examiner. In addition, Fig. 1(b) has been amended to clarify that the color beam multiplexing prism 4 is

also a " $\lambda/4$  plate." See the disclosure in the specification at page 19, lines 33-34.

With respect to the Examiner's objection to Fig. 12, however, it is respectfully pointed out that the reference numeral 42 (corresponding to a fixed bearing) is already shown in the drawings (in Fig. 13). Accordingly, no amendment to Fig. 12 is deemed necessary.

Submitted herewith are corrected sheets of formal drawings which incorporate the amendments and annotated sheets showing the changes made thereto.

No new matter has been added, and it is respectfully requested that the objections to the drawings be withdrawn.

#### THE CLAIMS

The claims have been amended to make minor grammatical improvements and to correct minor antecedent basis problems so as to put them in better form for issuance in a U.S. patent. In particular, independent claims 1 and 3 have been amended to more clearly recite that the image display device is supported by a portion other than a user and that the image display device is adapted to be in contact with a face of the user.

No new matter has been added, and it is respectfully requested that the amendments to the claims be approved and entered, and that the objections to the claims be withdrawn.

It is respectfully submitted, moreover, that the amendments to the claims are not related to patentability, and do not narrow the scope of the claims either literally or under the doctrine of equivalents.

#### THE PRIOR ART REJECTION

Claim 3 was rejected under 35 USC 103 as being obvious over USP 5,253,832 ("Bolas et al"); and claims 1, 2 and 4-14 were rejected under 35 USC 103 as being obvious in view of the combination of Bolas et al with one or more of USP 5,822,127 ("Chen et al"), USP 4,257,062 ("Meredith"), USP 6,014,261 ("Takahashi et al"), USP 6,879,443 ("Spitzer et al"), USP 4,268,127 ("Oshima et al") and USP 5,347,644 ("Sedlmayr"). These rejections, however, are respectfully traversed with respect to the claims as amended hereinabove.

According to the present invention as recited in amended independent claim 1, there is provided an image display device which is supported by a portion other than a user, which is adapted to be in contact with a face of the user, and which is movable in accordance with a movement of the face of the user. As recited in amended independent claim 1, when the image display device is worn by the user, a gravity center of the image display device is located on a nearer side of an occipital region

compared with eyeballs of the user and on a nearer side of the neck compared with the eyeballs of the user.

Along the same lines, according to the present invention as recited in amended independent claim 3, there is provided an image display device which is supported by a portion other than a user so that the image display device is movable in three-dimensional directions in space, and so that the image display device is rotationally movable in the three-dimensional directions. As recited in amended independent claim 3, the image display device is adapted to be in contact with a face of the user, and is movable and rotationally movable in accordance with movement of the face of the user. In addition, as recited in amended independent claim 3, the image display device comprises a plurality of rotational movement shafts each of which passes through a vicinity of a gravity center of the image display device.

Thus, according to the present invention as recited in amended independent claims 1 and 3, the gravity center of the head mounted display is kept on the rotational movement center of the user's head. In other words, the gravity center of the display is kept on the nearer side of the occipital region compared with eyeballs of the user and on the nearer side of the neck compared with the eyeballs of the user, and the rotation axis center of the shafts of the portion other than the user that

supports the head mounted display (and center thereof) is set in the vicinity of the gravity center. See, for example, Figs. 6-12 and the corresponding disclosure in the specification.

With this structure of the claimed present invention, the weight of the display device is counterbalanced, and when the display device is in contact with the face of the user, the display device is movable and rotationally movable in a 3-dimensional space in accordance with movement of the face of the user without giving a sense of weight to the user.

On page 5 of the Office Action, the Examiner indicates that Bolas et al discloses plural rotational movement shafts of the image display device thereof, and that it would be obvious for each of the shafts of the image display device of Bolas et al to pass through a vicinity of the gravity center of the image display device thereof. Applicant respectfully disagrees.

In particular, it is respectfully pointed out that the rotating pivot joint 22 of the image display device of Bolas et al (which rotates about an X-axis perpendicular to the printed surface of Fig. 1 of Bolas et al) has an axis that passes outside of the image display device thereof. That is, it is respectfully submitted that the pivot joint 22 of Bolas et al should also be considered to be the rotational movement shaft of the image display device thereof (along with shafts "18" and "20" indicated by the Examiner). And it is respectfully submitted that the

shaft 22 of Bolas et al does not pass through the vicinity of the gravity center of the image display device thereof. Therefore, it is respectfully submitted that the image display device (or head mounted display) of Bolas et al is not movable and rotationally movable in three-dimensional directions as according to the image display device of the claimed present invention. And it is respectfully submitted that each of the plurality of rotational movement shafts of the image display device of Bolas et al do not pass through the vicinity of the gravity center of the display device thereof.

With the structure of the image display device Bolas et al, contrary to the claimed present invention, the movement in accordance with the direction of the movement of the user's face without giving a sense of discomfort to the user is not possible. In particular, with the image display device of Bolas et al, when the user turns his face around the X-axis (which is perpendicular to the printing surface of Fig. 1 of Bolas et al), the image display device rotates with the freely rotating pivot joint 22 as the rotating center and moves along the circumference with the approximate distance between the pivot joint 22 and the bearings 18 as a radius. See Fig. 1 of Bolas et al. With this structure, weight to restore the display device to its original position is produced on the user whose face is in contact with the display device. Therefore, it is respectfully submitted that in the

structure of the image display device of Bolas et al, the weight of the display device is not counterbalanced as in the structure of the image display device of the claimed present invention. See Figs. 8-12 of the present application, and in particular see Fig. 11.

Moreover, according to Bolas et al the weight of the display device is counterbalanced by a tension spring. And according to Bolas et al, the spring counterbalances the weight of the image display device at a stationary position. However, contrary to the claimed present invention, with the structure of Bolas et al, when the user moves his position in an up and down direction, a force to restore to an original position is produced. Therefore, it is respectfully submitted that with the structure of Bolas et al, counterbalancing of the device's own weight is not possible at an arbitrary position as according to the structure of the claimed present invention.

According to the structure of the claimed present invention, a principle of an elevator is used whereby the gravity center and the rotation axes are balanced in three-dimensional directions. As a result of this structure, the image display device of the claimed present invention is movable to arbitrary positions and in arbitrary directions in accordance with movement of the face of the user, when the user's face is in contact with the image

display device, and the weight of the image display device is counterbalanced without giving a sense of weight to the user.

It is respectfully submitted that even if the cited prior art references were combinable in the manner suggested by the Examiner, any such combination still does not achieve or render obvious the above described features and effects of the present invention as recited in independent claim 1 and 3.

Accordingly, it is respectfully submitted that amended independent claims 1 and 3 and all the claims respectively depending therefrom clearly patentably distinguish over the cited references, taken singly or in combination, under 35 USC 103.

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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned for prompt action.

Respectfully submitted,

/Douglas Holtz/

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